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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/579,407
Filing Date: May 15, 2006
Appellant(s): JUNGHANNS ET AL.

Aaron C. Walker
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/25/2010 appealing from the Office action mailed 2/26/2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 16-31 have been finally rejected.

Claims 1-15 have been cancelled.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

20070171841	Witzel	7-2007
7577152	Bachmann	8-2009
20060168318	Twiss	7-2006

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 16-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Witzel (US 2007/0171841) in view of Bachmann (US 7577152).

Regarding claim 16, Witzel discloses a method for establishing a trans-coder-free operation connection between two communication terminals in a communication network (see e.g. Abstract and [0116][0117]), comprising:

checking in a radio network controller ([0116] access starting from a radio network controller), upon receipt of a communication from a switching unit relating to use of at least one subset of at least one codec mode configuration for establishment of a trans-coder-free operation connection ([0117] first originating network node e.g. a mobile switching center generates an initial supported codec list), whether the at least one requested subset is supported by the radio network controller ([0117] [0124]

determine supported codec's); if the at least one subset of the at least one codec mode configuration is supported by the radio network controller (see e.g. [0124][0117] intersection of codec's supported by the terminal device and all the network nodes), establishing a trans-coder-free operation connection to the switching unit and a communication terminal and restricting a codec mode configuration to be used for transmission of data to the subset (see e.g. [0117] [0124] TFO-TrFO harmonization is the first step to establish a trans-coder-free operation, and selecting only codec's supported by the terminal device and all the network nodes, therefore restricting the codec mode configuration to be used); and signaling (see e.g. Fig. 7 items 40 and 46), from the radio network controller to the communication terminal ([0116][0117]), at least one message relating to the subset of the at least one codec mode configuration to be used for transmission of data ([0121] the originating or terminating leg will be informed of decided codec's, therefore signaling from network to mobile terminal).

Witzel discloses a radio network controller communicating with switching center relating to the use of at least one subset of at least once codec mode configuration for establishment of a trans-coder-free operation connection but does not specifically disclose the radio network controller receiving a request from the switching center relating to the use of at least one subset of at least once codec mode configuration for establishment of a trans-coder-free operation connection. Bachmann teaches radio network controller negotiating with the switching center to establish proper codec configuration which involves having radio network controller receiving and replying the codec mode selection requests (col. 1 lines 35-58).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Witzel, to have the network controller taking active role in the codec selection process by negotiating with swtiching center, thus allowing a smooth roaming and handovers between technically different networks (col. 21 lines 30-35).

Regarding claim 17, Witzel discloses a method according to claim 16, wherein at least a part of at least one message relating to the at least one codec mode configuration to be used with at least two codec modes is signaled from the radio network controller to the communication terminal for the transmission of data in an uplink direction ([0117] and fig. 7 items 46, 40, 45 and 47, from mobile station to network controller therefore uplink direction).

Regarding claim 18, Witzel discloses a method according to claim 17, further comprising signaling from the radio network controller to the communication terminal at least a further part of at least one message relating to the at least one subset of the at least one codec mode configuration to be used for the transmission of data in the uplink direction ([0117]).

Regarding claim 19, Witzel discloses a method according to claim 18, wherein the radio network controller supports all subsets of a supported codec mode configuration ([0042]).

Regarding claim 20, Witzel discloses a method according to claim 19, wherein the transcoder-free operation connection is established from the radio network controller

to the communication terminal using a codec mode configuration supported by the radio network controller ([0042]).

Regarding claim 21, Witzel discloses a method according to claim 20, wherein the codec mode configuration represents a combination of at least two codec modes (Fig. 3 at least two codec modes).

Regarding claim 22, Witzel discloses a method according to claim 21, wherein the communication network is a cellular mobile radio network (Fig. 1).

Regarding claim 23, Witzel discloses a method according to claim 22, wherein a radio resource control signaling is used by the radio network controller for signaling to the communication terminal (Abstract).

Regarding claim 24, Witzel discloses a method according to claim 23, wherein a mobile radio terminal, mobile computer and/or mobile organizer is used as the communication terminal (Abstract).

Regarding claim 25, Witzel discloses a radio network controller for establishing a transcoder-free operation connection between two communication terminals in a communication network having a switching unit and mobile network units, comprising: send and receive units communicating with the mobile network units ([0117] mobile terminals therefore have send and receive units communicating with mobile network units); and at least one processing unit checking a request sent from the switching unit relating to use of a subset of a codec mode configuration for establishment of a transcoder-free operation connection to determine whether the requested subset is supported by the radio network controller ([0117] a list of codecs is generated and direct

codecs are determined, therefore at least one processing unit), establishing a transcoder-free operation connection to the switching unit if the subset of the codec mode configuration is supported by said radio network controller ([0117] harmonization process is the first step to establish transcoder-free operation), restricting a codec mode configuration to be used for transmission of data to the subset (see e.g. [0117][0124] limiting only to codecs that are supported by the terminal and all the network nodes), and signaling a message relating to the subset of the codec mode configuration to be used for the transmission of data via said send unit to a communication terminal included among the mobile network units ([0121] the originating or terminating node will be informed of the decided codec).

Witzel discloses a radio network controller communicating with switching center relating to the use of at least one subset of at least once codec mode configuration for establishment of a transcoder-free operation connection but does not specifically elaborate the radio network controller receiving a request from the switching center relating to the use of at least one subset of at least once codec mode configuration for establishment of a transcoder-free operation connection. Bachmann teaches radio network controller negotiating with the switching center to establish proper codec configuration which involves having radio network controller receiving and replying the codec mode selection requests (col. 1 lines 35-58).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Witzel, to have the network controller taking active role in the codec selection process by negotiating with

swtiching center, thus allowing a smooth roaming and handovers between technically different networks (col. 21 lines 30-35).

Regarding claim 26, Witzel discloses a radio network controller according to claim 25, wherein said radio network controller signals at least a part of at least one message relating to the codec mode configuration to be used with at least two codec modes for the transmission of data in an uplink direction to the communication terminal ([0117]).

Regarding claim 27, Witzel discloses a radio network controller according to claim 26, wherein said radio network controller signals at least a further part of at least one message relating to the at least one subset of the codec mode configuration to be used for the transmission of data in the uplink direction to the communication terminal ([0117] and Fig. 7).

Regarding claim 28, Witzel discloses a radio network controller according to claim 27, wherein the communication network is a cellular mobile radio network (Abstract and Fig.1).

Regarding claim 29, Witzel discloses a radio network controller according to claim 28, wherein the mobile network units include at least one of a mobile radio terminal, a mobile computer and a mobile organizer (Abstract and Fig. 1).

Regarding claim 30, Witzel discloses a device according to claim 29, wherein the codec mode configuration is a combination of at least two codec modes ([0117]).

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Witzel in view of Bachmann (US 7577152), and further in view of Twiss (US 2006/0168318).

Regarding claim 31, the combination of Witzel and Bachmann (US 7577152) discloses a method according to claim 16, but does not specifically disclose a Transport Combination Control Message is used by the radio network controller for signaling to the communication terminal. Twiss discloses a network controller signaling transport control messages to network portions ([0026]).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Witzel and Bachmann, to signal transport messages to network elements as taught by Twiss, thus allowing a reduced in traffic in a network ([0026]).

(10) Response to Argument

TECHNOLOGY BACKGROUND

In a wireless communication, data can be coded (compressed) before it is transmitted, in order to reduce the amount of data transmitted at the originating device. The data is decoded (decompressed) after it is received at the terminating device, and this coding and decoding process is generally performed by devices abbreviated as codecs. The coding is done in most cases by leaving out repeated data and inserting a code word indicating that all data following is the same. For example if a picture has a Blue sky, the transmitting side would have to transmit many pixels (data units) of Blue in series and the receiving side would need to reproduce all of those blue pixels to reproduce the picture. Instead, the transmitting side could put in a code. For example, "*insert-100-Blue"* could be transmitted and the receiver could just put 100 blue pixels in the picture. By inserting the code "*insert-100-Blue*" the transmitting side has reduced or

compressed the data from 100 data units to only the amount of data units necessary to transmit the code. For example, the code "*insert-100-blue*" has 13 letters and thus could only need 13 data units to reproduce the letters. So the data has been compressed by 87 data units from 100 data units of blue, to 13 data units of a code that says blue.

Sometimes encoded data is transmitted to a terminating device but the terminating device does not support the format or has limited storage capacity that mandates a reduced file size, or to convert incompatible or obsolete data to a better supported or modern format. In this scenario, trans-coding is required to perform the conversion of one encoding to another. Thus extra coding is needed to match of the coder and decoder.

Trans-coder Free Operation (TrFO) is a mechanism for configuring a communication session such that no trans-coders are needed in the core network. In order to establish a call using TrFO, both devices have to agree upon the same codec operation both devices are capable of. By agreeing ahead of time on the coding, no trans-coding is necessary, thus, By transporting only the compressed speech, TrFO achieves bandwidth efficiencies in the bearer stream and reduces round trip delays introduced by unnecessary trans-coding (see background of Witzel pargraph {0004]).

TrFO utilizes signaling capabilities that include the ability to determine the negotiated codec type to be used at the both the originating and terminating devices. Thus the two devices can choose amongst codec's that require additional trans-coders or choose a type that does not require additional transcoders (see Witzel abstract, last

two lines). Depending on network configuration, the trans-coder location is flexible and could be located either in the radio access network (RAN) or the media gateway (MGW) thus allowing in some cases direct codec's not codec's requiring trans-coding.

SUMMARY OF APPELLANT'S ARGUMENT AND EXAMINER'S RESPONSE

Appellant argues that the prior art of record does not disclose establishing a transcoder-free operation connection between terminals at the radio network controller based upon receipt of a request from a switching unit.

The examiner respectfully disagrees. Witzel, the primary reference is discussing a method of selecting codec type for "Trans-coder/Tandem Free Operation" discloses establishing a trans-coder-free operation between two mobile terminals by a originating network node initiating a list of codec and a terminating network node receiving the list and comparing the received list with its own list to determine the direct codec commonly supported by both the originating network node and the terminating network node (see [0130]). Thus the devices can choose codec's not requiring trans-coders. The network node maybe a mobile switching unit or a radio network controller or a media gateway as indicated in [0116] and [0117]. As a reminder, a switching node, gateway and server can be considered as a controller node in a wireless communication network. To make it more obvious, Bachmann is brought to explicitly show a transcoder-free operation process where the common codec is negotiated between a radio network controller and a switching unit (see Col. 1 lines 35-58).

Therefore the examiner contends that the combination of Witzel and Bachmann indeed discloses establishing a trans-coder-free operation connection between

terminals at the radio network controller based upon receipt of a request from a switching unit.

DETAILS OF APPELLANT'S ARGUMENT AND EXAMINER'S RESPONSE

Brief pages 11-15, appellant argues claims 16-30 are not obvious under USC 103(a) in view of Witzel and Bachmann.

Brief page 11, appellant argues with respect to claim 16 that the combination of Witzel or Bachmann does not teach establishing a transcoder-free operation (TFO) connection between terminals at the radio network controller which determines and establishes a transcoder-free operation connection based upon receipt of a request from a switching unit relating to use of at least one subset of at least one codec mode configuration. The examiner respectfully disagrees. Witzel discusses a TFO-TrFo harmonization process which starts with the first originating network node such as a mobile switching center (MSC), which generates a first supported codec list ([0116][0117]). A network device receives the first list from the originating network and a second list from a terminating network. The network device compares the first and second list and determines the direct codec supported by both originating network and terminating network for TFO. As stated before, a switching node, gateway, network node or device, and server can be considered as a controller node. To make it more obvious, Bachmann is brought to show a similar TFO process where the common codec is negotiated between a radio network controller and a switching unit (see Col. 1 lines 35-58). Therefore the combination of Witzel or Bachmann does teach establishing a transcoder-free operation (TFO) connection between terminals at the radio network

controller which determines and establishes a transcoder-free operation connection based upon receipt of a request from a switching unit relating to use of at least one subset of at least one codec mode configuration.

Brief page 12, appellant argues with respect to claim 16 that Witzel discloses a node-by-node method of establishing a connection between an originating leg and a terminating leg, which is inferior to the appellant's method. The examiner respectfully disagrees. As one embodiment, Witzel discloses a very straightforward method of a network device receiving and comparing two lists supported by the originating network and terminating network and determining a direct codec used by both networks (see [0130] and Fig. 11), which coincides with appellant's method disclosed in [0015] which reads as follows:

"FIG. 1 shows a simplified network architecture for negotiating a codec mode for a connection between two communication terminals UE in for example a cellular mobile radio network, such as the UMTS network. The radio network controller RNC1 supports two different codec mode configurations (mode 1, 2 and mode 3, 4). In contrast all AMR modes 1 to 4 are input in the RNC1 storage unit T1 of the controlling switching unit MSC1. The codec mode configurations supported by the radio network controller RNC1 are not taken into account. The second radio network controller RNC2 also supports two different codec mode configurations (mode 1, 2 and mode 4, 5). In the RNC2

storage unit T2 of the second switching unit MSC2 the codec mode configurations in the radio network controller RNC2 are in turn not taken into account. All AMR modes 1 to 5 are again input in the RNC2 storage unit T2. For codec negotiation the sending (originating) side with the switching unit MSC1, the RNC1 storage unit T1 and the radio network controller RNC1 transmits all supported codec types and modes, for example in the form of a list, table, etc., to the receiving (terminating) side with the switching unit MSC2, the RNC2 storage unit T2 and the radio network controller RNC2 (1). On the receiving side this list, table, etc. of supported codec types and modes is reduced by the types and modes that are not supported on the receiving side, one codec mode is selected with one codec mode configuration and sent back to the sending side (2). RAB (Radio Access Bearer) assignment is now initiated with the selected codec mode in the direction of the radio network controller RNC1 (3). As the radio network controllers RNC1 and RNC2 do not however support the selected codec mode configuration (1, 2, 4), the RAB assignment is rejected (4). A connection with a transcoder-free operation cannot therefore be set up between two communication terminals UE, for example mobile radio terminals, mobile computers, mobile organizers, etc.”

In other words, appellant discloses the originating side sending its supported codec in the form of a list and receiving side receiving this list and reducing the list by the codec not supported on the receiving side and selecting codec supported by both sides. It is clear that appellant's method is similar to Witzel's by receiving and comparing the lists and selecting the codec supported by both originating and terminating networks.

Brief page 13, appellant argues with respect to claim 16 that Witzel does not teach the method of transcoder-free operation that is carried out at the radio network controller and Bachmann fails to teach such feature as well. The examiner respectfully disagrees. Witzel disclose a network device performing all the steps recited in claim 16. As mentioned above, a network device may be a network controller even though it is not explicitly stated so. In order to make it obvious, Bachmann is brought to explicitly show a similar transcoder-free operation where the common codec is negotiated between a radio network controller and a switching unit (see Col. 1 lines 35-58). Therefore the combination of Witzel and Bachmann indeed disclose the method of transcoder-free operation that is carried out at the radio network controller.

Brief pages 14-15, appellant makes similar arguments with respect to claim 25. The examiner has addressed these arguments above. For the reasons stated above, all dependent claims 17-24 and 26-30 do not patentably distinguish over the references relied upon.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/KATHY WANG-HURST/

Examiner, Art Unit 2617

Conferees:

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